

DOING SCIENCE: THE PROCESS OF SCIENTIFIC INQUIRY		
Louisiana Grade-Level Expectations: Science – Grades 6 – 8		
Lesson	GLE	Descriptor
All lessons	SI-M-A1	Generate testable questions about objects, organisms, and events that can be answered through scientific investigation
All lessons	SI-M-A1	Identify problems, factors, and questions that must be considered in a scientific investigation
All lessons	SI-M-A1	Use a variety of sources to answer questions
1, 3, 4	SI-M-A2	Design, predict outcomes, and conduct experiments to answer guiding questions
1, 2	SI-M-A2	Identify independent variables, dependent variables, and variables that should be controlled in designing an experiment
1, 3, 4	SI-M-A3	Select and use appropriate equipment, technology, tools, and metric system units of measurement to make observations
All lessons	SI-M-A3	Record observations using methods that complement investigations (e.g., journals, tables, charts)
All lessons	SI-M-A3	Use consistency and precision in data collection, analysis, and reporting
3	SI-M-A3	Use computers and/or calculators to analyze and interpret quantitative data
All lessons	SI-M-A4	Identify the difference between description and explanation
3, 4	SI-M-A4	Construct, use, and interpret appropriate graphical representations to collect, record, and report data (e.g., tables, charts, circle graphs, bar and line graphs, diagrams, scatter plots, symbols)
1, 3, 4	SI-M-A4	Use data and information gathered to develop an explanation of experimental results
1, 3, 4	SI-M-A4	Identify patterns in data to explain natural events
2	SI-M-A5	Develop models to illustrate or explain conclusions reached through investigation
2	SI-M-A5	Identify and explain the limitations of models used to represent the natural world
1, 3, 4	SI-M-A5	Use evidence to make inferences and predict trends
All lessons	SI-M-A6	Recognize that there may be more than one way to interpret a given set of data, which can result in alternative scientific explanations and predictions
All lessons	SI-M-A7	Communicate ideas in a variety of ways (e.g., symbols, illustrations, graphs, charts, spreadsheets, concept maps, oral and written reports, equations)
2	SI-M-A7	Write clear, step-by-step instructions that others can follow to carry out procedures or conduct investigations
1, 2	SI-M-A7	Distinguish between observations and inferences
1, 3, 4	SI-M-A7	Use evidence and observations to explain and communicate the results of investigations
1, 3, 4	SI-M-A8	Use relevant safety procedures and equipment to conduct scientific investigations
3, 4	SI-M-B1	Compare and critique scientific investigations
1, 2	SI-M-B1	Use and describe alternate methods for investigating different types of testable questions

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All lessons	SI-M-B1	Recognize that science uses processes that involve a logical and empirical, but flexible, approach to problem solving
3, 4	SI-M-B3	Explain how technology can expand the senses and contribute to the increase and/or modification of scientific knowledge
All lessons	SI-M-B5	Recognize the importance of communication among scientists about investigations in progress and the work of others
All lessons	SI-M-B6	Explain that, through the use of scientific processes and knowledge, people can solve problems, make decisions, and form new ideas
4	SI-M-B7	Identify areas in which technology has changed human lives (e.g., transportation, communication, geographic information systems, DNA fingerprinting)
3, 4	LS-M-A6	Explain how external factors and genetics can influence the quality and length of human life (e.g., nutrition, smoking, drug use, exercise) (7)
3, 4	LS-M-A7	Identify and describe common communicable and noncommunicable diseases and the methods by which they are transmitted, treated, and prevented (7)
Louisiana Grade-Level Expectations: Mathematics – Grades 6 – 8		
Grade 6		
Lesson	GLE	Descriptor
3, 4	N-8-M	Use models and pictures to explain concepts or solve problems involving ratio, proportion, and percent with whole numbers
1	M-1-M	Measure length and read linear measurements to the nearest sixteenth-inch and mm
3, 4	D-1-M D-2-M A-3-M	Collect, organize, label, display, and interpret data in frequency tables, stem-and-leaf plots, and scatter plots and discuss patterns in the data verbally and in writing
Grade 7		
3, 4	N-5-M N-6-M N-8-M	Set up and solve simple percent problems using various strategies, including mental math
3, 4	N-8-M	Use proportions involving whole numbers to solve real-life problems
Grade 8		
3, 4	N-8-M	Use proportional reasoning to model and solve real-life problems
3, 4	N-8-M N-5-M	Solve real-life problems involving percentages, including percentages less than 1 or greater than 100
3, 4	A-4-M	Explain and formulate generalizations about how a change in one variable results in a change in another variable
3	D-5-M	Use experimental data presented in tables and graphs to make outcome predictions of independent events

Louisiana Grade-Level Expectations: English Language Arts – Grades 6 – 8		
Lesson	GLE	Descriptor
2, 3, 4	ELA-1-M1	Identify word meanings using a variety of strategies, including: using context clues (e.g., definition, restatement, example, contrast), using structural analysis (e.g., roots, affixes), determining word origins (etymology), using knowledge of idioms, and explaining word analogies
All lessons	ELA-1-M1	Develop specific vocabulary (e.g., scientific, content-specific, current events) for various purposes
All lessons	ELA-1-M3	Draw conclusions and make inferences in oral and written responses about ideas and information in grade-appropriate texts, including: instructional materials, essays, or dramas (7)
All lessons	ELA-1-M4	Interpret ideas and information in a variety of texts (e.g., scientific reports, technical guidelines, business memos) and make connections to real-life situations and other texts (8)
All lessons	ELA-7-M2	Examine and explain the relationship between life experiences and texts to generate solutions to problems
3, 4	ELA-7-M2	Use technical information and other available resources (e.g., software programs, manuals, Web sites, interviews) to solve problems
2, 3, 4	ELA-7-M4	Analyze grade-appropriate print and nonprint texts using various reasoning skills, including: identifying cause-effect relationships, raising questions, reasoning inductively and deductively, generating a theory or hypothesis, skimming/scanning, and distinguishing facts from opinions and probability
All lessons	ELA-2-M1	Write multiparagraph compositions on student- or teacher-selected topics organized with the following: an established central idea, organizational patterns (e.g., comparison/contrast, order of importance, chronological order) appropriate to the topic, elaboration (e.g., fact, examples, and/or specific details), transitional words and phrases that unify ideas and points, and an overall structure including an introduction, a body/middle, and a concluding paragraph that summarizes important ideas
All lessons	ELA-2-M1	Organize individual paragraphs with topic sentences, relevant elaboration, and concluding sentences
All lessons	ELA-2-M2	Develop grade-appropriate compositions on student- or teacher-selected topics that include the following: word choices (diction) appropriate to the identified audience and/or purpose, vocabulary selected to clarify meaning, create images, and set a tone, information/ideas selected to engage the interest of the reader, clear voice (individual personality), and variety in sentence structure
All lessons	ELA-2-M4	Develop grade-appropriate paragraphs and multiparagraph compositions using the various modes of writing (e.g., description, narration, exposition, persuasion), emphasizing narration and exposition
All lessons	ELA-2-M4	Use the various modes to write compositions, including: comparison/contrast and essays based on a stated opinion
All lessons	ELA-3-M5	Spell high-frequency, commonly confused, frequently misspelled words and derivatives (e.g., roots and affixes) correctly
All lessons	ELA-4-M1	Adjust diction and enunciation to suit the purpose for speaking
All lessons	ELA-4-M1	Use standard English grammar, diction, syntax, and pronunciation when speaking
All lessons	ELA-4-M2	Follow procedures (e.g., read, question, write a response, form groups) from detailed oral instructions
All lessons	ELA-4-M2	State oral directions/procedures for tasks

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All lessons	ELA-4-M6	Participate in group and panel discussions, including: explaining the effectiveness and dynamics of group process, applying agreed-upon rules for formal and informal discussions, and assuming a variety of roles (e.g., facilitator, recorder, leader, listener)
1, 3, 4	ELA-5-M2	Locate and integrate information from grade-appropriate resources, including: multiple printed texts (e.g., encyclopedias, atlases, library catalogs, specialized dictionaries, almanacs, technical encyclopedias), electronic sources (e.g., Web sites, databases), and other media sources (e.g., audio and video tapes, films, documentaries, television, radio)
3, 4	ELA-5-M6	Interpret information from a variety of graphic organizers, including timelines, charts, schedules, tables, diagrams, and maps in grade-appropriate sources

Louisiana Health Education Content Standards: Grades 5 – 8

Lesson	Benchmark	Descriptor
4	1-M-2	Evaluate healthy and unhealthy lifestyles (e.g., preventive health measures, physical fitness, nutrition, obesity, eating disorders, stress, etc.)
4	1-M-4	Analyze high risk behaviors to determine their impact on wellness (e.g., disease transmission, suicidal tendencies, substance use and abuse, etc.)
3, 4	2-M-1	Locate valid health information using various sources (e.g., Internet, videos, print, television, etc.)
All lessons	5-M-1	Demonstrate verbal and non-verbal skills to communicate care, self-control, and respect for all
4	6-M-1	Develop strategies to encourage and influence others in making positive health choices (e.g., healthy food choices, abstaining from alcohol, tobacco, and illegal drug use, etc.)
3	6-M-2	Analyze various communication methods to accurately express health ideas and opinions